



Loren Cordain, PhD

Origins and Evolution of the Western Diet: Health Implications for the 21st Century

Disclosure Statement:

Loren Cordain, PhD has indicated he has no relevant financial relationships with any commercial interests.

About the lecture:

There is growing awareness that the profound changes in the environment (e.g. in diet and other lifestyle conditions) that began with the introduction of agriculture and animal husbandry approximately 10,000 years ago occurred too recently on an evolutionary timescale for the human genome to adjust. In conjunction with this discordance between our ancient, genetically determined biology and the nutritional, cultural and activity patterns of contemporary western populations, many of the so-called diseases of civilization have emerged. In particular, food staples and food processing procedures introduced during the Neolithic and Industrial era have fundamentally altered seven crucial nutritional characteristics of ancestral hominin diets: 1) glycemic load, 2) fatty acid composition, 3) macronutrient composition, 4) micronutrient density, 5) acid/base balance, 6) sodium/potassium ratio, and 7) fiber content.

In the U.S. and most western countries, diet-related chronic diseases represent the single largest cause of morbidity and mortality. These diseases are epidemic in contemporary, westernized populations and typically afflict 50-65 % of the adult population, yet are rare or non-existent in hunter-gatherers and other less westernized people. Although both scientists and lay people alike may frequently identify a single dietary element as the cause of chronic disease (e.g. saturated fat causes heart disease, or salt causes high blood pressure), evidence gleaned over the past three decades now indicates that virtually all so-called diseases of civilization have multifactorial dietary elements that underlie their etiology, along with other environmental agents and genetic susceptibility. Coronary heart disease, for instance, does not arise simply from excessive saturated fat in the diet, but rather from a complex interaction of multiple nutritional factors directly linked to the excessive consumption of novel Neolithic and Industrial era foods (dairy products, cereals, refined cereals, refined sugars, refined vegetable oils, fatty meats, salt and combinations of these foods). These foods, in turn, adversely influence proximate nutritional factors which universally underlie or exacerbate virtually all chronic diseases of civilization: 1) glycemic load, 2) fatty acid composition, 3) macronutrient composition, 4) micronutrient density, 5) acid/base balance, 6) sodium/potassium ratio, and 7) fiber content. However, the ultimate factor underlying diseases of civilization is collision of our ancient genome with the new conditions of life in affluent nations including the nutritional qualities of recently introduced foods.

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About Dr. Cordain:

Dr. Cordain is a Professor in the Department of Health and Exercise Science at Colorado State University in Fort Collins, Colorado. His research emphasis over the past 15 years has focused upon the evolutionary and anthropological basis for diet, health and well being in modern humans. Dr. Cordain's scientific publications have examined the nutritional characteristics of worldwide hunter-gatherer diets as well as the nutrient composition of wild plant and animal foods consumed by foraging humans. Over the past five years his work has focused upon the adverse health effects of the high dietary glycemic load that is ubiquitous in the typical western diet. A number of his recent papers have proposed an endocrine link between dietary induced hyperinsulinemia and acne. Currently, Dr. Cordain's research team is exploring the connection between dietary elements that increase intestinal permeability (primarily saponins and lectins) and autoimmune disease, particularly multiple sclerosis. Dr. Cordain is the author of more than 100 peer review publications, many of which were funded by both private and governmental agencies. He is the recent recipient of the Scholarly Excellence award at Colorado State University for his contributions into understanding optimal human nutrition. He has lectured extensively on the "Paleolithic Nutrition" concept world wide, and has written three popular books (The Paleo Diet, John Wiley & Sons; The Paleo Diet for Athletes, Rodale Press; The Dietary Cure for Acne) summarizing his research findings.

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